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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/627,828	07/25/2003	Ronald D. Blum	63049.000092	3770
27682	7590	09/13/2005	EXAMINER	
J. MICHAEL MARTINEZ DE ANDINO ESQ. HUNTON & WILLIAMS RIVERFRONT PLAZA, EAST TOWER 951 EAST BYRD ST. RICHMOND, VA 23219-4074			SCHWARTZ, JORDAN MARC	
			ART UNIT	PAPER NUMBER
			2873	
DATE MAILED: 09/13/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

H.A

Office Action Summary	Application No.		Applicant(s)	
	10/627,828		BLUM ET AL.	
	Examiner		Art Unit	
	Jordan M. Schwartz		2873	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 June 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 84,86-92 and 94-101 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 84,86-92 and 94-101 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input checked="" type="checkbox"/> Other: <u>Foreign Reference with English translation</u> |

DETAILED ACTION

Claim Rejections - 35 USC § 112

Claims 84, 91, 94 and 100 (and dependent claims 86-90, 92, 95-99, and 101) are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

With respect to claims 84 and 91, that part of the claim stating “capable of being edged” renders the claims vague and indefinite. Specifically, any lens is capable of being edged i.e. is capable of having some edging removed from the lens such as by lathing, by laser etc. In some cases, removing edging may be detrimental to the lens such as destroying or removing optical material or components needed for the lens to function properly but regardless the lens is “capable of being edged”. Therefore the intended meaning of this limitation is unclear rendering the claim vague and indefinite. For purposes of examination the assumed meaning is “capable of being edged without removing a portion of said electro-active material”.

With respect to claims 94 and 100, that part of the claim stating, “at least partially disposed above a pupil of a wearer's eye” lacks an antecedent basis and renders the claims vague and indefinite. Specifically, applicant is broadly claiming “An electro-active lens” and has not claimed that the lens is being worn on a person's eye. Furthermore, a wearer of a lens can simply hold the lens above their head and then the lens would be ‘at least partially disposed above a pupil’. For purposes of examination the assumed meaning is “An ophthalmic electro-active lens...” and the assumed meaning of the last

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two lines of these claims is “wherein the electro-active material is at least partially disposed above a pupil of a wearer’s eye when the ophthalmic lens is in an as worn position”. This assumed meaning overcome the Birdwell and Winarski references cited in the prior office action and therefore these references have not been applied.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 94 and 98-101 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japanese document 62-209412 (Jp’412) in view of Kern patent number 4,601,545.

Jp’412 discloses the limitations therein including the following: an electro-active lens (English abstract); an electro-active material of a substantial constant thickness (English abstract, Figures 1 and 2 with the electro-active material disclosed as a “layer” and from what is disclosed in Figures 1 and 2 the layer would inherently have a “substantially constant thickness”); a plurality of conductive electrodes arranged in a grid or array (Figures 1 and 2); comprising a plurality of elements (Figures 1 and 2, electrodes “11” as the plurality of elements); each grid or array element as an electrode (Figures 1 and 2, electrodes “11”); each electrode isolated from other electrodes by an insulating material (English abstract); the electro-active material containing a liquid

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crystal (English abstract); the grid or array of electrodes in electrical contact with at least one layer of electro-active material (English abstract, Figures 1 and 2); the optical power of the lens is varied by altering an applied voltage from a power source to individual electrodes of the grid or array (English abstract); the electro-active material causing a change in the refractive index of the electro-active material (English abstract). It is believed that the change in refractive index would be at least 0.02 units per volt, this being reasonably based upon Jp'412 disclosing the changing index of refraction producing a changing optical power of the electro-active lens (English abstract) similar to that of the claimed invention. Jp'412 further discloses the lenses used as "zoom eye glasses" (pages 2-4 of the English translation). It is presumed that by "zoom eye glasses", Jp'412 means "vari-focal eyeglasses". Regardless, Jp'412 discloses the lenses being worn as eyeglasses and further discloses the electro-active material covering the entire portion of the lens (see Figure 1). Therefore, when in the worn position, the electro-active material of Jp'412 will inherently be at least partially disposed above a pupil of a wearer's eye.

Jp'412 discloses as is set forth including the electro-optic layer as a liquid crystal layer (English abstract) but does not specifically disclose the use of an alignment layer to align molecules of the electro-active material. Kern teaches that in an electro-active lens using liquid crystal as the electro-active material (abstract) that it is desirable to use an alignment layer to align molecules of the electro-active material for the purpose of providing the required alignment of the liquid crystal material which may then be used to provide the desired index of refraction change (column 1, line 42, column 4, line 6).

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Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to have the electro-active lens of Jp'412 as comprising an alignment layer since Kern teaches that in an electro-active lens using liquid crystal as the electro-active material, that it is desirable to use an alignment layer to align molecules of the electro-active material for the purpose of providing the required alignment of the liquid crystal material which may then be used to provide the desired index of refraction change.

In reference to claim 98, Jp'412 discloses as is set forth above but does not specifically disclose the grids or arrays as substantially circular and concentric with respect to one another. Kern further teaches that in an electro-optical lens using electrodes arranged in a grid or array (Abstract, Figure 1) that the electrodes can either be arranged in a matrix array similar to that of JP'412 (Kern, Figure 1 and Jp'412 Figure 2) or can be arranged in an array which is substantially circular and concentric for the purpose of providing the required electro-optical effect (Figure 5c, column 5, line 40). Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to have the array of Jp'412 as a circular and concentric array since Kern teaches that that in an electro-optical lens using electrodes arranged in a grid or array, that the electrodes can either be arranged in a matrix array or can be arranged in an array which is substantially circular and concentric for the purpose of providing the required electro-optical effect.

Claims 95-97 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japanese document 62-209412 (Jp'412) in view of Kern patent number 4,601,545, and further in view of Birdwell.

Jp'412 and Kern disclose and teach as is set forth above but do not specifically disclose the insulating material as silicon oxide or as a substantially transparent material. Birdwell teaches that in an electro-active lens using an insulating material, that it is desirable to use silicon oxide as the insulating material for the purpose of providing an effective means of electrical insulation (column 16, lines 36-40). Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to have the insulating material of Jp'412 as modified by Kern, as silicon oxide since Birdwell teaches that in an electro-active lens using an insulating material, it is desirable to use silicon oxide as the insulating material for the purpose of providing an effective means of electrical insulation. The insulating material taught by Birdwell will inherently be transparent, this being reasonably based upon Birdwell teaching the use of silicon oxide, similar to that of the claimed invention.

Examiner's Comments

For applicant's information, the assumed meaning of claims 94 and 100 with respect to the 112 rejection above, overcomes the Birdwell and Winarski references applied in the prior office action. If applicant had merely claimed "disposed above a pupil of a user's eye" then these references would have been applicable based upon the positioning of the electro-active device with respect to the eye.

Response to Arguments

Applicant's arguments concerning the independent claims 84 and 91, based upon the assumed meaning of "capable of being edged" are persuasive and these claims are indicated as allowable below. Applicant has not set forth arguments concerning claims 94-101 and the examiner believes that the art is still relevant as set forth in the rejections above.

Allowable Subject Matter

Claims 84 and 91 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.

Claims 86-90 and 92 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: with respect to the allowable subject matter, none of the prior art either alone or in combination disclose or teach of the claimed combination of limitations to warrant a rejection under 35 USC 102 or 103. Specifically, with respect to independent claims 84 and 91, none of the prior art either alone or in combination disclose or teach of the claimed electro-active lens, specifically including, as the distinguishing feature in combination with the other limitations, the claimed electro-active lens capable of being edged without removing a portion of said electro-active material (the assumed meaning).

Conclusion

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jordan M. Schwartz whose telephone number is (571) 272-2337. The examiner can normally be reached on Monday to Friday from 8:00 to 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Georgia Y. Epps can be reached on (571) 272-2328. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read 'Jordan M. Schwartz', with a stylized, cursive script.

Jordan M. Schwartz
Primary Examiner
Art Unit 2873
September 9, 2005